Classification	☐ tDS/tGW/tSH	☐ PETL/tET/tPET	☐ DS/PDS/PPDS	☐ tM-752N
	☐ I/O Card	☐ VXC Card	☑ TouchPAD/HMIWorks	☐ VxComm

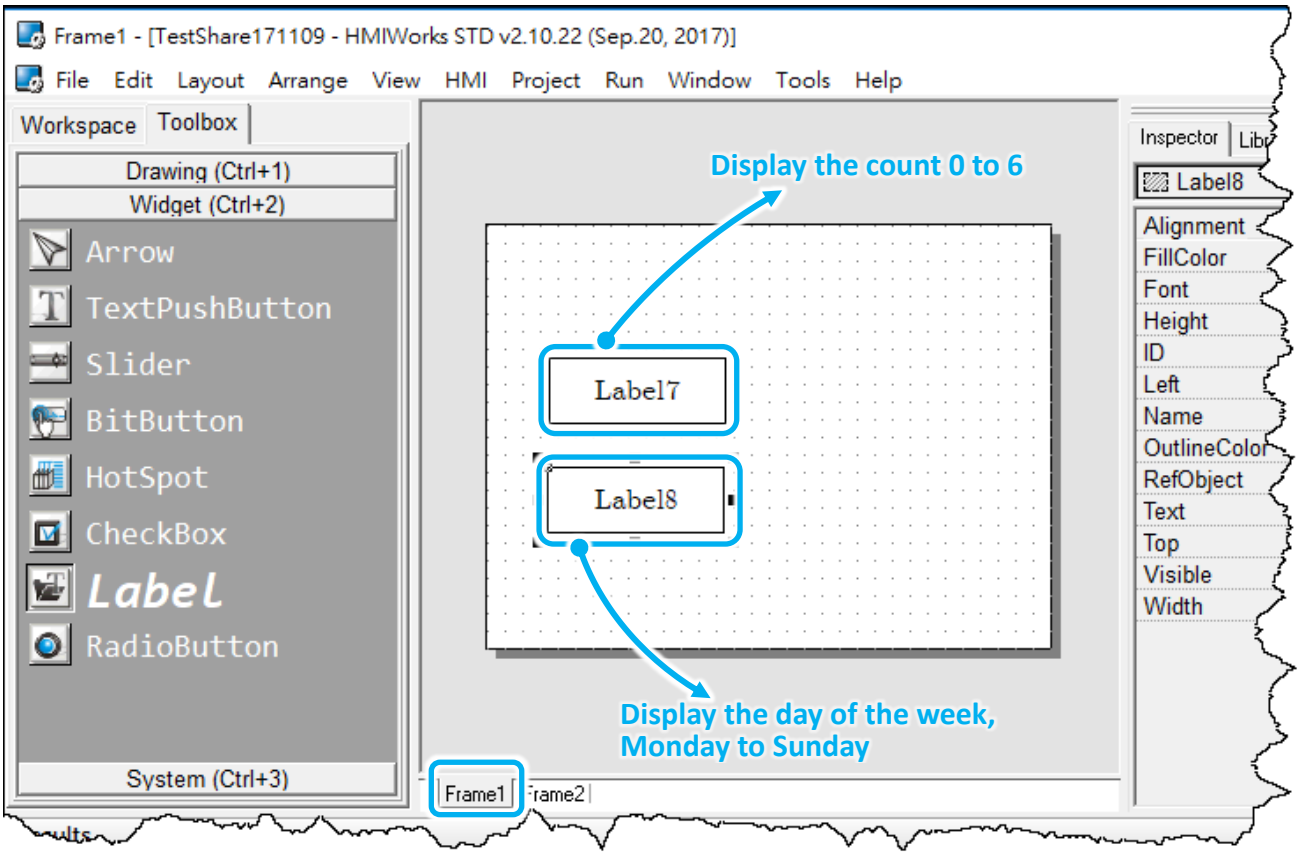
Author	Tammy	Date	2017-11-17	NO.	FAQ028

Q: How do I share variables, arrays and functions between frames?

A: The keyword **extern** is used to declare a variable, array or function as being external. The specified variable, array or function can then be defined in another source file.

The following example illustrates how the day of the week, Monday through Sunday, is displayed on frame1, and the related variables, arrays and functions are all defined in frame2.

Step 1: On page 1 (Frame1), use the "**Label"** component from the **Widget** panel to display the count and the week**.**



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Step 2: Open the **System panel**, and add a "**Timer"** component to access the **variables, arrays and functions on page 2 (Frame2).**

Double click the "**Timer"** component to open the code editor and add the following code:

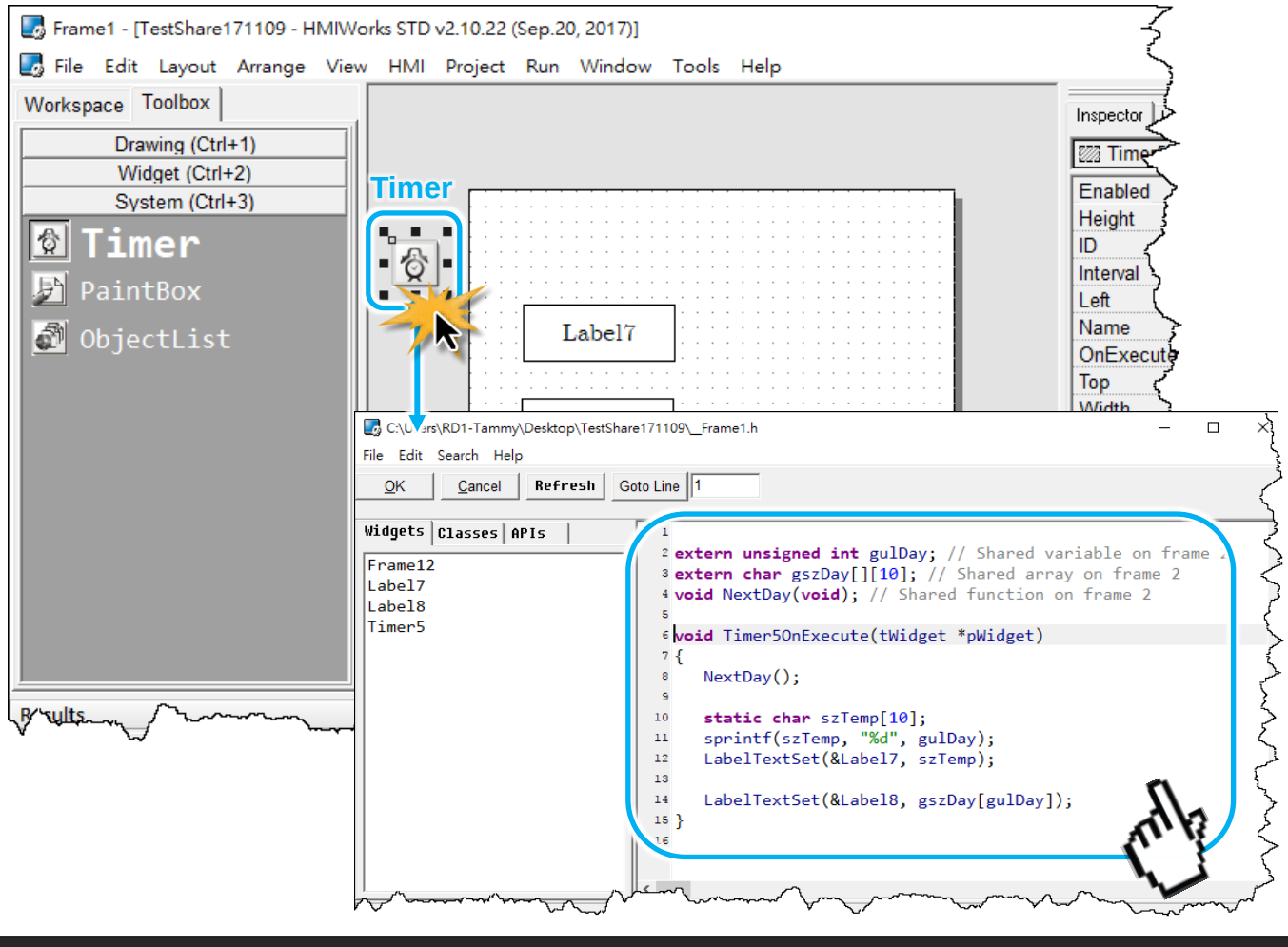
```
extern unsigned int gulDay; // Shared variable on frame 2
extern char gszDay[][10]; // Shared array on frame 2
void NextDay(void); // Shared function on frame 2

void Timer5OnExecute(tWidget *pWidget)
{
   NextDay();

   static char szTemp[10];
   sprintf(szTemp, "%d", gulDay);
   LabelTextSet(&Label7, szTemp);

   LabelTextSet(&Label8, gszDay[gulDay]);
}
```

Note: The **`szTemp`** string illustrate above must be defined using the **`static`** keyword when it is used as a local variable/array. So the string buffer is retained in memory , meaning that it is still available for the use by Label widget after the function instructions have been completed.



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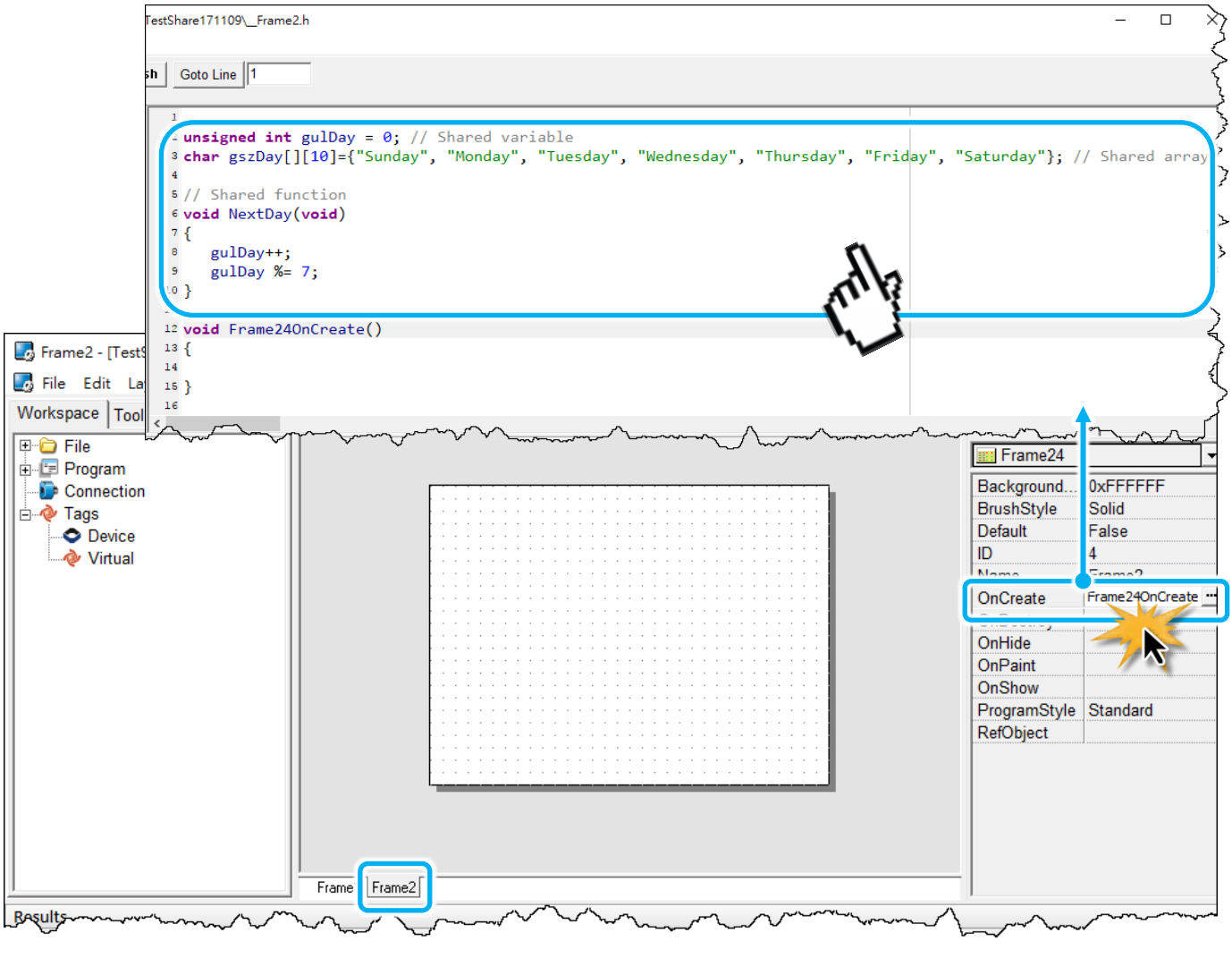
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Step 3: Add page 2 (Frame2) and double-click the **"OnCreate"** event to add the following code for the shared variable, array and function:

```
unsigned int gulDay = 0; // Shared variable
char gszDay[][10]={"Sunday", "Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday"}; // Shared
array

// Shared function
void NextDay(void)
{
   gulDay++;
   gulDay %= 7;
}
```

Note: The shared variable/array can not be defined using the **`static`** keyword since it would make the information only accessible on this file. The shared variable/array also has no **`extern`** keyword in the definition.



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